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ABSTRACT

This literature review examines the American and Canadian educational research and program literature related to the inclusion of adults with intellectual disabilities in the postsecondary community college system and adult vocational training systems and has the overall goal of identifying factors that contribute to effective integration. Following an introduction which identifies themes of research in this area, the second chapter looks at current levels of participation across disabilities, by disability category, and specifically for people with an intellectual disability. The next section presents data on the impact of participation in postsecondary education on patterns of employment. The issue of integrated versus segregated education is addressed next, followed by a section on barriers to participation including the legal and policy framework, institutional policies, classroom practices, and personal factors. Specific success factors are identified in the sixth section, including legal/policy factors, institutional factors, and classroom factors. The seventh section describes the Integrated Access Model. The final section describes specific programs in Canada and the United States. A conclusion notes that the small body of existing literature indicates clear benefits to inclusion, provided there is adequate support and sufficient planning. (Contains 74 references.) (DB)

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Inclusion of Individuals with Disabilities in Post-Secondary Education

A Review of the Literature

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Inclusion of Individuals with Disabilities in Post-Secondary Education

A Review of the Literature

Prepared by Miriam Ticoll

The Roeher Institute, March 1995

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1. Introduction

This literature review examines the American and Canadian educational research and program literature related to the inclusion of adults with an intellectual disability in the post-secondary community college system and adult vocational training systems. The overall objective of the literature review is to identify the factors that contribute to effective integration.

The failure to provide effective integrated post-secondary education and training to people with an intellectual disability has been eloquently expressed in comments by two American researchers who conducted a follow-up study on students of special education in the United States. They noted that a large majority of the persons with an intellectual disability studied were not living and working in least restrictive environments. The researchers concluded that:

" for the most part they were provided no contact with nondisabled peers. These subjects were in low-paid, entry-level, or scarcely- paid sheltered employment. Limited residential and employment options were available in the community. No agency provided supported employment or transitional services. The post-secondary training offered did not promote competitive employment. Results suggest that opportunities for supervised, competitive employment (supported work), appropriate post-secondary training and coordination of services provided by secondary special education public schools and post-secondary community programs were non-existent." (Haring & Lovett, 1990)

Issues that this review examines include, participation levels, impact of lack of access, barriers to participation and success factors leading to the effective inclusion of people with intellectual disabilities in post-secondary education and training. It also describes a number of model programs that have been identified in the research.

Because relatively little literature exists pertaining specifically to the inclusion of people with an intellectual disability in post-secondary education and training, the search was expanded somewhat to include research pertaining to other types of disabilities. Therefore, while the focus of this review is primarily on issues pertaining to people with an intellectual disability, literature pertaining to a variety of disabilities was examined, with a view to understanding the barriers to inclusion of people with disabilities in post-secondary education and training in general, as well as the factors contributing to their effective integration.

It has been noted that themes of research in this area fall into a number of categories, including:

- material dealing with services, support or programming for certain populations
- transition into post-secondary and out of post-secondary education

- outline of options for services - how to set up services, programming (Hill, 1992)

Literature falling into all of these categories is included in this review.

An extensive search on the ERIC database was conducted using the following descriptors and derivatives thereof: disabilities, mental retardation, developmental disabilities, vocational education, post-secondary education, special-needs students. In addition, the resources of Information Services of The Roeher Institute, York University Library, and the Ontario Institute for Studies in Education were consulted.

2. Current Levels of Participation

2.1 Cross disability

Statistics on the participation of people with disabilities in post-secondary education and vocational training vary and are not entirely consistent with one another. A number of studies indicate that over the past decade there has been a dramatic increase in the number of students in colleges who identify as having a disability. Other studies suggest that people with disabilities remain considerably under-represented in both vocational and college programs.

For example, one study suggests that in the last decade the number of students with disabilities on U.S. college campuses has tripled. This study indicates that students with disabilities now account for slightly more than 10% of all college students (Rothstein, 1991 in McNeil & Kelley 1993).

This percentage is consistent with the findings of the study conducted by the U.S. Department of Education (1987), indicating that over 1.3 million (10.5%) of the nation's 12.5 million students enrolled in colleges and universities reported having at least one disability. Notably, approximately 25% of all freshman who reported having a disability in 1991 were learning disabled (Henderson, 1992 in Bigaj & Bazinet).

Other researchers have suggested that, despite a long history of federal legislation in the United States mandating the inclusion of students with disabilities in vocational education, these students remain under-represented among vocational enrolments. Data from the studies these researchers examined indicate an approximately 3.3 percent enrolment of individuals with disabilities across all vocational educational programs. The authors note that this remains far below the estimated 8-10 percent enrolment of students with disabilities in American schools. (Weisenstein et al 1991).

Another American study (Butler-Nalin & Shaver, 1989) indicates that overall 15% of youth with disabilities who exited secondary school were reported to have participated in post-secondary education during the year prior to being interviewed. About 10% of youth with disabilities interviewed for the Butler-Nalin & Shaver study took at least one course from a vocational or trade school, fewer than 5% took at least one course from a two-year college, and fewer than 2% took at least one course from a four-year college. In general, the authors suggest that the post-secondary education participation rates of special education students was well below the national norms for nondisabled youth.

In another study, a nationally representative sample of youth with disabilities who recently exited high school was studied to determine the participation of the youth in post-secondary

educational programs. The results show that youth with disabilities participate in post-secondary programs at only one-quarter the rate attained by their counterparts without disabilities and at only one-third the rate attained by economically disadvantaged youth (Fairweather, 1991). People with disabilities attend two-year vocational, community, or junior colleges more frequently than four-year colleges of universities (Wagner, et al. 1991, in Bigaj & Bazinet).

Researchers seeking information about the participation of people with disabilities in post-secondary education in Canada have noted that the lack of data on this topic. (Hill, 1992). Where data exists, it suggests that people with disabilities are significantly under-represented in post-secondary institutions (The Roeher Institute, 1992). In 1985-86, 6.3 per cent of the general adult population attended university or community-college training programs; however only 2.3 per cent of working-age adults with disabilities were in attendance. In 1986, 46.1 per cent of Canadians ages 15 to 24 were attending school, but only 26.2 per cent of persons with disabilities in this age group were in school. (The Roeher Institute, 1992)

The table below compares the educational attainment levels for people with and without disabilities in Canada:

Educational attainment (based on 1986 HALS data)

	Disabled	Non-disabled
Primary only	28.9	11.2
Some high school	27.8	26.9
High school graduate	9.4	14.0
Trades certificate	10.3	10.8
Some post-secondary	8.6	12.2
Post sec. certificate/diploma	9.9	14.2
University degree	5.2	10.8

(The Roeher Institute, 1992)

While it is difficult to generalize based on these various American and Canadian studies - conducted at different points in time, with varying methodologies and sample sizes - the research suggests that there has been a trend toward an overall increase in participation of people with disabilities in post-secondary education over the past decade. However, the findings also indicate that people with disabilities continue to participate in post-secondary education at significantly lower rates than non-disabled individuals. Furthermore, within the population of people with disabilities, levels of participation vary greatly, depending upon the category of disability.

2.2 Category of disability

While the research indicates that the level of participation in post-secondary education varies considerably depending on the nature of the disability, there are nevertheless variations and inconsistencies in the research findings with respect to the levels of participation by disability groups. Notwithstanding these inconsistencies, people with an intellectual disability tend to have among the lowest participation rates of all disability categories.

The National Longitudinal Transition Study of Special Education Students (NLTS) was sponsored by the U.S. Department of Education and based on data on over 8,000 youth who were ages 13-23 and were receiving special education services in the 1985-86 school year. The rate of post-secondary education participation of individuals in the NLTS database varied greatly by disability category. Youth who were deaf or who had a visual impairment had higher rates of participation than youth with other disabilities (35% and 31% compared to 16% for youth with learning disabilities or emotional disturbances). Youth who were deaf/blind or who had multiple handicaps or "mental retardation" participated in post-secondary education at the lowest rates (fewer than 10%, fewer than 5% and fewer than 9%, respectively). (Butler-Nalin & Shaver, 1989)

In an analysis of longitudinal studies, follow-up studies, and cross-sectional studies with each of 10 disability groups, Peraino (1992) arrived at the following post-secondary education participation rate pattern by disability type:

Disability	Any Post-Secondary Education
learning disabilities	28%
mild mental retardation	14%
moderate to severe retardation	8%
behaviour disorders/ emotional disorders	23%
hearing impairments	47%
visual impairments	40%
physical disabilities	28%
autism	30%
speech impairments	29%
multiple disabilities	4%
deafness/blindness	8%
mean (all)	25%
nondisabled	56%

(Peraino, 1992)

One study indicates that higher post-secondary participation rates are in evidence only for youth who comprise a small portion of the population of students with disabilities - youth with speech, visual, hearing and health impairments. According to this study, the larger groups of youth with disabilities, particularly youth with learning disabilities, participate at considerably lower rates than nondisabled youth. (Fairweather, 1991)

However, another study suggests that the number of college students in the U.S. self-identifying as having learning disabilities has risen from 0.6 % (1980) to 12.2 % (1987) or more than 1.5 million college students (Vander Putten, 1993). The increasing numbers of students with learning disabilities attending post-secondary institutions comprises the largest single group of college students with disabilities receiving university-wide services. (Vander Putten, 1993)

2.3 Participation rates of people with an intellectual disability

The literature examining participation rates of people with an intellectual disability in post-secondary and vocational training was found to be limited. However, one researcher (Peraino, 1992) reviewed a number of studies that included post-secondary education as a meaningful outcome variable for high school graduates with an intellectual disability. These studies included both college attendance and vocational or job training. Seven studies tabulated the percentage of graduates with "mild mental retardation" (Edgar, 1987; Edgar & Levine, 1987; Edgar et al, 1988; Frank et al, 1990; Haring & Lovett, 1990; Iowa Department of Education, 1989; Schalock et al, 1986) and five studies for those with "moderate-to-severe retardation" (Edgar et al., 1988; Frank et al., 1990; Haring & Lovett, 1990; Iowa Department of Education, 1989; Schalock et al., 1986).

Peraino determined the mean percentage rates for these studies. He found that 14% of graduates with "mild retardation" attended college, vocational or job training after secondary school, whereas 8% of people with "moderate to severe retardation" were involved in post-secondary education or training. Peraino notes that these percentages reflect primarily vocational or job training. Graduates and dropouts with an intellectual disability taken together attend post-secondary training at the rate of 7% (Hasazi, Gordon, Roe, et al., 1985; National Longitudinal Transition Study, 1989). Averaging post-secondary attendance rates from all these studies yields a participation rate of 11% (Peraino,1992).

3. Impact of Participation in Post-Secondary Education on Patterns of Employment

While comparatively few persons with disabilities with high school or less education, have participated in training, individuals who take part in training are more likely to find and retain employment, particularly in the mainstream labour market rather than sheltered work (The Roeher Institute, 1992).

In a recent study commissioned by the Canadian Labour Force Development Board (1994), it was noted that access to post-secondary education and labour force participation are becoming increasingly linked in the current economic environment. Over 75% of the new jobs created in Canada between 1981 and 1986 were filled by persons with some post-secondary education; and 50% were filled by persons with a university degree. Prior to 1981 less than 60% of jobs were filled by persons with these qualifications. The report suggests that access to post-secondary education is of increasing importance to persons with disabilities, if only for the purpose of increasing their level of participation in the labour force.

While improvements in our educational system, particularly in higher and continuing education are leading to a higher educational index, it has also been noted that this improvement is not commensurate with the change in occupational demands. So while having post-secondary education may give one a "competitive edge" and make it more likely that one will be employed, at the same time the U.S. Bureau of Labour Statistics has found that the largest number of new jobs are of the type that, in fact, require little education. According to this data, the areas of employment that will experience the greatest growth in the future will be those jobs that require fewer educational skills. (Kiernan & Stark, 1986).

In discussing this phenomenon, Kiernan and Stark note that these are areas of employment in which a relatively large number of disabled individuals have been placed over the last 30 years. They point out that people with disabilities, particularly people with an intellectual disability, have been placed in jobs as building custodians, nurses aides, waiters, waitresses, and kitchen helpers. They suggest that most service jobs in which growth is projected (with the exception of teachers, truck drivers, accountants and registered nurses) appear to be accessible to adults with an intellectual disability, when good training and supervision are available. They conclude that there is therefore a need to emphasize vocational training and preparation, rather than the acquisition of academic skills. (Kiernan & Stark, 1986)

The nature and extent of vocational education also have an impact on employment levels. When students with disabilities participate in vocational education it is often in programs which have non-occupationally specific goals, or represent low skill training levels. Students with disabilities, for a variety of reasons, fail to complete programs at a rate commensurate with their nondisabled counterparts. (Weisenstein et al 1991). According to Weisenstein, when students with disabilities who gain access to vocational education programs are given necessary support systems leading to successful program completion, they obtain employment at the same rate as non-disabled students. (Weisenstein, et al, 1991)

Peraino indicates that, in the United States the employment rate of young adults with "mild mental retardation" (51%) is below the national rate of young adults without disabilities (61%) (Borus, 1984 in Peraino, 1992) and of young adults with learning disabilities (70%). The employment rate falls significantly when more severe retardation is considered (20%) or those who drop out of school (16%). According to Peraino, the participation of people with an intellectual disability in post-secondary education is one half to one third the rate of individuals with learning disabilities and at best one fourth that of nondisabled youth (Peraino, 1992). Once again, these numbers support the suggestion that for people with an intellectual disability there is a direct relationship between successfully completing post-secondary education and securing employment.

4. Integrated vs. Segregated Education

There is a considerable body of literature pertaining to mainstreaming primary and secondary students with intellectual disabilities in the classroom. There are vigorous debates about the benefits of integration, as well as a wealth of information about inclusive school and classroom practices as well as legal and policy issues (The Roeher Institute 1992b).

The literature search revealed surprisingly little material debating the advantages and disadvantages of integrated education for students with an intellectual disability at the post-secondary level. While there is now a small but growing body of literature reflecting the imperative to make universities and colleges more accessible to people with learning, mobility, hearing and sight impairments, the very nominal presence of students with intellectual disabilities at the college and university levels - and assumptions about the appropriateness of their presence - may account for the absence of research in the area. A significant proportion (although by no means all) of the vocational training continues to be carried out in specialized vocational education settings rather than generic vocational training institutions.

In discussing the benefits of integrated post-secondary education for people with an intellectual disability, Uditsky & Kappel (1988) note that the reasons to support the development of integrated post-secondary education are the same as those for supporting integration and community living in general. They include the following:

- the possibilities for many relationships
- it is a societally-valued experience
- it enhances self-esteem
- it improves employment possibilities through training and personal contact
- it is a normative experience which challenges expectations
- it allows people to make a valued contribution

They note that the post-secondary educational setting is an ideal place to further the goals of community integration because it provides:

- a generic setting
- a broad-based perspective of human needs
- integrated activities and life-enriching experiences
- a philosophy of life-long learning
- natural and meaningful environments used for integrated activities that occur at normal times of the day
- an array of resources

- a change agent
- transition

These authors also caution against specialized transitional services exclusively for people with a disability. They suggest that artificial services for people with disabilities have proven ineffective. They also caution against an overly narrow view that the only option for adults leaving high school is work, suggesting that a balanced approach with a broad range of choices is required.
They recommend "community intensive training", which promotes the training of students with an intellectual disability in community environments with normative opportunities after school and in summer jobs. They suggest that integrated post-secondary education addresses these cautions.

5. Barriers to Participation

A number of factors have been identified which act as barriers to the participation of people with disabilities in educational and training opportunities after they leave secondary school.

Barriers to access can be understood to operate at various levels:

- The legal and policy framework, including federal government legislation and provincial (or state) policies and programs with regard to education, training and the delivery of services, all of which have an impact on the availability of education and training programs, as well as the access people may have to the supports they may need to participate in these programs.

- Institutional policies which have an impact on the degree to which accommodations for people with disabilities are required or mandated in colleges, universities, and vocational training schools. Rules regarding amounts of funding payable to post-secondary institutions and guidelines regarding an individual's access to liquid assets make it difficult for individuals with disabilities to have the funds that are necessary to fulfil special needs and educational interests, and to access necessary support services (The Roeher Institute, 1988; The Roeher Institute, 1990).

- Practices within the classroom which may act as barriers to the integration of students with disabilities.

- Personal factors which may make it more or less likely that an individual will enrol in post-secondary education.

5.1 Legal and policy framework

The legal and policy framework for the delivery of post-secondary education services is an important determinant of the degree to which young people with disabilities have access to educational and training opportunities.

In the United States, because of different federal-state jurisdictional responsibilities, laws having a bearing on education and training are framed on both the federal and state levels. A number of laws are in place federally which are designed to facilitate the transition of young people with disabilities into adulthood. These include:

- Individuals with Disabilities Education Act (PL-476, commonly referred to as IDEA). This law, while stopping short of mandating individual transition plans, provides a requirement and challenge to the more than 16,000 education agencies to include transition planning and implementation in IEPs for all children with disabilities. (Wehman, 1992)

- The Rehabilitation Act Amendments of 1986 (PL 99-506). This act focuses on improving independent living opportunities, client rights, and supported employment opportunities. (Wehman, 1992)

- The Americans with Disabilities Act of 1990 and regulations. This legislation and its regulations provide for accessibility, non-discrimination and greater entrance into workplaces, community facilities, use of public transportation, and telecommunications. (Wehman, 1992)

- The Perkins Act (U.S. Department of Education), designed to provide a range of vocational and technical education options for all students, and to provide "equal access" to education for all children of all races, backgrounds and abilities. (Kochhar, 1993)

It has been noted however, that while federal laws establish broad provisions that have an important bearing on the delivery of educational services, actual responsibility for the delivery rests with the states, school districts, services providers, etc. (Wehman, 1992, The Roeher Institute, 1992). One researcher, commenting on the impact of the policy framework in the United States has noted that, while access to elementary and secondary education and supports has been largely achieved in that country, the programs provided have typically been in segregated settings (The Roeher Institute, 1992). While federal legislation in the United States generally supports equal access, the requirement to provide the supports and services for integrated education is not explicitly mandated. One educator has noted that The Perkins Act regulations, pertaining to vocational education in the United

States, illustrate how federal regulations may, in fact, serve to weaken the requirement to provide equal access to vocational education to students with disabilities and other students who require additional services, supports and assistance. (Kochhar, 1993).

In Canada, Section 15 of the Charter of Rights and Freedoms, which deals with discrimination, provides for a strong national framework within which law and policy affecting education and training can be framed, examined and disputed (Porter & Richler, 1991, Robertson, 1987). However, as in the United States, provincial/territorial legislation varies with respect to education.

While there are important provincial and territorial variations with respect to educational policies and programs affecting people with disabilities, a number of policy and program issues have been identified as barriers to the integration of people with disabilities in post-secondary education and training across Canada. These have been discussed in a report commissioned by the Canadian Labour Force Development Board (1994) and a study conducted by The Roeher Institute on the employment of people with disabilities in Canada (1992a). The following summarizes a number of the key barriers identified in these two reports:

- Training opportunities are unevenly and inequitably distributed across the provinces and territories, and across rural and urban areas.

- Eligibility criteria for training programs are restrictive and vary from program to program. For example, persons with disabilities may be admitted to the same college-based training class at least five ways. The route chosen - or presented as the only option - will determine the outcome. In many cases, eligibility for training is determined by vocational counsellors attached to these systems. As a result of varying eligibility requirements and administrative inconsistencies, the same person might, depending on the program, be identified as completely ineligible for training, or eligible not only for training, but also for support services and accommodations in the training site and post-training job placement.

- Often people with disabilities are only eligible for education or training, or find it feasible to participate, if they can first get the support services they need to take part. This is a problem where those support services are not available or where they are available only in ways or at times that conflict with training.

- The criteria used to purchase training are not driven by a coherent policy framework aimed at the economic integration of persons with disabilities. Some workshops are making the transition towards providing employment and supported on-the-job training options; others agencies are being established solely to provide such opportunities. However, any large-scale shift towards integrated work and training

goals would require a change in traditional training purchasing policies.

- People with disabilities often do not have the opportunity to continue in training or to integrate into the workforce once their training is completed, and their training subsidies have run out. Training for many thus becomes a "dead end".

- Many individuals have trained in sheltered settings, and thus have serious difficulty making the transition into the mainstream labour market.

- Training and education for which funding is available is often unsuitable to individual needs and interests, or fails to address individual learning styles, or is delivered in sites that are not accessible.

- Training that is available to Unemployment Insurance beneficiaries does not benefit persons with disabilities who have not recently been in the labour force.

- People with disabilities have been poorly represented in the policy process through which training priorities are determined and funding allotted.

5.2 Institutional policies and classroom practice

A number of factors acting as barriers to access to post-secondary education have been identified at the institutional and at the classroom levels.

Because access to post-secondary education is often dependent on a successful high school experience and planning in advance of high school leaving, the absence of adequate or effective planning in high school can impede the transition to post-secondary education and training. Research conducted in the United States suggests that students with a mild intellectual disability in particular have become the "forgotten ones" in special education (Edgar, 1988, Benz & Halpern, 1993). It is suggested that many students with an intellectual disability are in double jeopardy of failing when they leave school due to the inadequate vocational instruction and transition planning services they receive while they are in school. It has been noted that students with a mild intellectual disability are among those students who have the greatest needs for comprehensive vocational instruction and work experience and also are among those students least likely to receive this instruction (Benz & Halpern, 1993).

The following are some of the institutional and classroom barriers to access that have been identified at the high school and post-secondary levels:

High school

- Discretionary nature of access: Integrated education at the high school level is left very much to individual school boards and school administrators, and as a result, many young people are simply denied access on a discretionary basis to the educational opportunities (both at the secondary and post-secondary levels) (The Roeher Institute, 1992)

- Lack of or inadequate career counselling and vocational education training at the high school level (Zetlin & Murtaugh 1990).

- Lack of inter-agency collaboration between secondary and post-secondary programs (Getzel, 1990).

- Lack of planning and follow through: Individualized education programs are not used and developed to clarify objectives and necessary skills, and as a result, few students are able to take advantage of additional education.(Getzel, 1990).

Post-secondary

- Lack of stated policies regarding students with disabilities. A study of universities in Canada revealed that only 30% of universities responding to a questionnaire on the degree of accessibility reported that they had a specific policy regarding admissions of students with disabling conditions. (Hill, 1992). This author notes that the status of community colleges with respect to the admissions policy for students with disabilities is unknown.

- Students who enrol in post-secondary school programs may do so without direction and in programs that do not include a job placement component or follow-through (Zetlin & Murtaugh, 1990).

- Lack of understanding and cooperation by administrators, faculty, staff, and other students of the requirements of students with disabilities (West, et al, 1993).

- Lack of adaptive aids and other resources (West et al, 1993).

- Inaccessible buildings and grounds (Hill, 1992, West et al, 1993).

- Instructional styles and class structure: Instructional styles and class structure may inhibit the participation of students with disabilities. Educators in post-secondary classrooms may lack the skills or be reluctant to adapt or modify their materials or

teaching methods to meet the needs of students with disabilities (The Roeher Institute, 1992, Getzel, 1992, Greene et al, 1991).

- Educators may lack the skill necessary to successfully integrate students with disabilities in regular vocational classes (Greene et al, 1991)

- Absence of a support services counsellor with the skills required to counsel students with disabilities (for example, ability to sign) (MacNeil & Kelly, 1993).

- Lack of integration of services and resources within the educational institution (MacNeil & Kelley, 1993).

- Difficulty in sharing written educational records among various programs (Getzel, 1992).

5.3 Personal factors

In examining the barriers to participation, consideration may also be given to the personal characteristics which may inhibit or facilitate involvement in post-secondary education. One study examining this question found that, of the students and family background characteristics measured, only the head of the household's education level was consistently associated with post-secondary participation (Butler-Nalin & Shaver, 1989). Age and gender were not significantly related to post-secondary participation, and minority status was only a significant factor in explaining participation in four-year institutions. According to this study, individual characteristics, including youth's background characteristics, abilities and disabilities, and school achievement and behaviour were associated with participation in two-year and four-year institutions, but not significantly related to participation in post-secondary vocational institutions. This study also found that:

- youths with disabilities who graduate from high school were more likely to participate in post-secondary education than youth with similar disabilities who did not graduate.

- post-secondary participation in either four or two-year institutions was found to be significantly related to urbanicity; youth with disabilities who attended high school in a rural community were less likely to participate in post-secondary education.

6. Success Factors

6.1 Legal and policy and framework

A number of factors have emerged as key to strengthening the legal and policy framework to ensure that people with disabilities have greater access to training and post-secondary education. While these factors are not necessarily specific to people with an intellectual disability, they apply to this population as well as to individuals with other types of disabilities. Some of these factors include:

- holding training and educational institutions accountable for making the necessary changes in their policies, teaching procedures and sites of learning with respect to the inclusion of people with disabilities, by, for example, attaching conditions to the funding now delivered to these sites of learning;

- introducing less restrictive eligibility criteria to make training and upgrading more accessible to people with disabilities who have low levels of educational attainment;

- developing policy, programs and funding that enable trainees to integrate into the mainstream labour market;

- addressing the factors in vocational counselling that effect the eligibility barring many individuals from gaining access to training, education and disability-related supports, including: raising expectations of counsellors about the employment potential of people with disabilities and increasing their familiarity with disability-related issues and systems;

- ensuring that mainstream vocational counselling, referral and placement agencies service all citizens - including people with disabilities - by developing and maintaining their expertise in serving people with disabilities;

- enacting and implementing legislation to encourage inter-agency collaboration at the federal as well as provincial (or state) and local levels.

- working towards developing a level of consistency across and within institutions of higher education with respect to accommodations of services.

(The Roeher Institute, 1992, The Canadian Labour Force Development Board, 1994, Wehman, 1992, West, 1993)

6.2 Institutional success factors

In the literature pertaining to people with an intellectual disability there is a far greater focus on the roles of various institutions (schools, colleges, vocational training programs, etc.) in the transition from school to work than on access to integrated post-secondary training or education. Little research was found pertaining specifically to the measures that can be taken by post-secondary educational institutions to ensure access to people with an intellectual disability.

Nevertheless, the "transition" literature is instructive in terms of how it characterizes "best practices" and effecti.e strategies for institutions committed to assisting young adults with an intellectual disability leaving secondary schools to lead productive and fulfilling lives.

Kohler (1993), for example, conducted a study to determine which transition practices have been identified or supported in the literature as having a positive impact on student outcomes. Three practices - vocational training, parent involvement, and inter-agency collaboration and service delivery - were cited in over 50% of the documents analyzed. At least one third of the literature supported social skills training, paid work experience, and individual transition plans and planning as best practices. Employability skills training and integration, least restrictive environment, and mainstreaming, although not implied as effective in a large number of studies, were substantiated by results in two studies each. Although no element was substantiated by study results more than five times, Kohler concludes that there is some support for concluding that these practices constitute desirable components of transition programs and as such, warrant further study.

These factors overlap to some extent with the success factors which emerge from the literature pertaining to the integration of students with learning, motor, sensory and psychiatric disabilities in post-secondary educational institutions. A review of the literature suggests that the following factors are key to improving access by students with disabilities to universities, colleges and other sites of post-secondary education:

- the establishment of a centre for disabled students which serves as a drop-in centre for disabled students and their professors, provides services and support groups, disseminates information, and sponsors awareness and sensitization programs; (Hill, 1992)

- the delivery of programs and seminars to sensitize the student population, faculty, staff and the administration to the issues faced by students with disabilities;

- the implementation of changes in admission and registration procedures (e.g. to accept more disabled students, keep a record of disabled students, grant priority at registration, etc.);

- providing a welcoming open-minded atmosphere and an administration which provides swift response to the needs of professors and students with disabilities;
- the provision of a forum for research and discussion (i.e. encouraging professors and professionals to share experiences and solutions to problems encountered in teaching disabled students);
- instilling in teachers a sense of obligation to search for ways to help students with disabilities who take their courses;
- advocating for improved resources and human rights at all levels; (Hill, 1992)
- utilizing strong trustee and alumni advocacy, commitment and support;
- appointing a coordinator of services to students with disabilities and developing a program budget;
- building an internal network of administrators and faculty who have demonstrated individual support to students with disabilities and building an external network with other institutions and organizations who are working on similar goals;
- establishing committees to monitor and support the process of change and increasing the efforts for physical accessibility;
- improving programmatic and physical accessibility (Sheridan & Ammirati, 1991).
- providing reasonable accommodation. Examples of what this might mean for students with psychiatric disabilities include:
    - orientation to campus
    - assistance with registration/financial aid
    - assistance with selecting classes/class load
    - extended time for exams
    - change of location for exams
    - parking
    - note taking, tape recorders
    - seating arrangement modifications
    - peer support
    - identified place to meet on campus that feels "safe" before or after class
    - incompletes rather than failures if relapse occurs
    - time management
    - study skills
    - special re-entry classes (Unger, 1991)

- providing collateral training to vocational and special educators in the needs and capabilities of students with disabilities, vocational accommodation competencies and cooperative consultation techniques. (Weisenstein et al 1991)

6.3 Classroom success factors

The particular accommodations that a student with a disability will require in the classroom will depend to a large extent on the nature and extent of his or her disability. There is a significant body of literature focusing specifically on accommodations for students with learning disabilities, likely as a result of their increasing presence in post-secondary educational institutions. Classroom accommodations for students with disabilities include instructional strategies, as well as suggestions for increasing the self-determination and self-advocacy skills of these students (West, 1993, Wehmeyer, 1992, Durlak et al, 1994).

There appears to be a gap in the research in terms of identifying specific factors which facilitate the participation of students with an intellectual disability in colleges and universities due, perhaps, to their very low participation levels.

However, students with an intellectual disability do have an increasing presence in integrated vocational settings. Studies indicate that vocational educators however, also tend to lack the skills necessary to successfully integrate students with disabilities in regular vocational classes (Greene et al, 1991). These and other studies (West, 1993, Wehmeyer, 1992) suggest that as is the case with students with various other disabilities, a successful post-secondary education experience for students with an intellectual disability requires the development of appropriate instructional strategies and the promotion of self-advocacy skills.

A number of instructional strategies for consideration by vocational and special needs students have been described by Greene et al (1991) including:

- clinical teaching to tailor learning experiences to vocational students' individual needs. This is accomplished through a continuous cycle consisting of instructional assessment, planning, implementation, evaluation and modification.

- environmental/curriculum modifications, involving adjusting or changing the classroom physical or instructional environment to accommodate the unique abilities, needs, learning styles, and occupational goals of special needs learners.

- direct instruction, including the use of an instructional strategy that emphasizes direct roles for vocational teachers engaged in the teaching/learning process with special needs students (versus utilizing peer tutors or other instructional support systems).

- individualized instruction methods, focusing on teaching individual learners, taking into account the different attributes of students and variations in their learning styles. This method allows students to work at their own pace using a variety of instructional materials and resources to facilitate their learning.

As noted above, several researchers have emphasized the need to teach skills of self-determination and self-advocacy to students with disabilities. (Durlak et al, 1994, Wehmeyer, 1992, West, 1993).

Durlak et al (1994) conducted a study (involving 8 high school students with specific learning disabilities) examining whether students with learning disabilities could acquire the following behaviours related to self-determination through direct instruction and subsequently generalize them to other school settings:

- stating the specific nature of the learning disability, including specific strengths and weaknesses
- stating the impact of the disability on academic and social performance
- identifying the accommodations that might be helpful in dealing with deficit areas
- identifying strategies for arranging accommodations with their regular classroom teacher

The results suggests that these students can acquire, maintain and generalize skills that focus on the self-determination skills of self-advocacy and self-awareness; the findings support research suggesting that students with learning disabilities must be taught such skills directly. The researchers note that the results have important implications for parents and educators, who have, in many cases, encouraged dependency in students with learning disabilities by protecting, advocating and doing for them what they can be taught to do for themselves. It is essential that students be given the opportunity to participate in IEP meetings, take general education classes, ask for assistance, and understand their strengths and weaknesses if they are to survive in the adult world.

Wehmeyer (1992) similarly suggests that vocational and special educators should focus on the development of abilities and attitudes that foster self-determination. He notes that:

- in order to fulfil the primary objective of vocational education, the preparation of individuals for employment, it is imperative that educators provide instruction that leads to self-determination;

- self-determination refers to the attitudes and abilities required to act as the primary causal agent in one's life and to make choices and decisions regarding one's actions free from undue external influence or interference;

- strategies to promote self-determination among adolescents with disabilities need to take two forms: explicit instruction in skills necessary to be self-determining and changes in service delivery systems that will facilitate the acquisition of attitudes leading to the use of these skills.

Wehmeyer suggests that students with disabilities require:

- skills that promote self-regulation (students need to be able to effectively observe and respond to what is going on around them);

- psychosocial skills needed in the workplace;

- environments that are structured to ensure opportunities for choice;

- instruction that is organized to promote self-determination;

- teaching strategies that promote self-determination.

7. Models and Practices Promoting Inclusion

The literature pertaining to models and best practices for including students with disabilities in post-secondary education and training includes those operating at the institutional and programmatic levels.

7.1 Models

Integrated Access Model

One of the institutional models discussed in the literature is the Integrated Access Model. Van Meter (1993) describes this model as being in harmony with current organisational theory. The newer theory stresses integrated, boundary-less forms in which each person is expected to be more knowledgeable about the whole and more flexible. This theory moves away from earlier ones in which there were high levels of differentiation and specialization, where the whole picture was unclear to individuals, and where persons did not see their relationship to the entire organization.

This model it posited as an alternative to the Traditional Service Delivery Model, with an office for services to students with disabilities as its centrepiece. Through the use of this model the campus at large is empowered to assist students in meeting their own disability-related needs. The author characterizes the Integrated Access Model as one where:

- educational institutions work to ensure that educational access to students with disabilities is viewed as the responsibility of the entire college or university, and not just that of one office; sharing information and sources of information are the major role of the disabled student services staff; other offices provide needed accommodation.

- a community of experts is developed in order to accomplish this more undifferentiated knowledge and sensitivity base

- the most appropriate place for a service or accommodation to reside is determined. This involves asking questions such as: who should be responsible for providing a service? Who is already providing a similar service for other students? Who could provide the service with little modification to existing procedures?

- political involvement with institutional policy-making and long-range planning decisions and the effects those decisions might have on members of the campus community who have disabilities

- pressure is placed on high-level campus administrators to state boldly policies regarding the accommodation of students with disabilities

- students are assisted to become excellent self-advocates

One researcher has described four models of program design for learning disability services that have been developed in higher education (Sandperl, 1989 in Sheridan, 1991). These models are:

- The Academic Development Model focuses on individual assistance from a writing centre or a centre for academic development, offers writing counselling, tutoring, individual educational evaluations, requirement waiver or substitution, and special examination accommodations.

- The Consumer Advocacy Model focuses on self-understanding and self-advocacy, offers a support group and direct student support such as reading and note-taking services.

- The Disabled Student Services Model is administered by a coordinator from a disability resource centre, has a strong services infrastructure, individualized evaluation, academic planning, strong advocacy and a student support group.

- The Comprehensive Model has a coordinator, written college policy, evaluation services, individualized academic planning and support services, auxiliary aids, specialized tutoring, academic accommodations including examination adjustments, requirement substitutions, reduced course load, priority registration and housing assignments, a high level of campus awareness concerning disability issues, readily available information, faculty mentors, and an active student group.

7.2 Practices

Vocational Education to Work

This model is designed to increase the enrolment of special education students in vocational education.

In a study of best practices mandated in the United States by PL 98-524 and those found in the literature, Rockwell, Weisenstein and LaRoque (1986), found that the only practices seemingly related to increased enrolment of students with disabilities in vocational education were those associated with communication between special education and vocational education and appropriate placement procedures (Weisenstein et al 1991).

A model demonstration project, partially funded by the Office of Special Education Programs, U.S. Department of Education, was collaboratively designed by staff from the University of Washington and the Highline School District (Seattle, Washington). Based on existing research on best practices, the model combined support components into a singly

comprehensive program supporting the training of students with disabilities in mainstreamed vocational education (Weisenstein at al 1991).

The intent of the model demonstration project was to obtain information which would be useful to school districts and state departments of education in determining the best forms of support services to address the low enrolment and completion rates in vocational education currently experienced by students with disabilities.

The Vocational Education to Work model is a system of communication and support between vocation and special education. It is composed of four separate but sequential components: 1. Active Recruitment; 2. Guided Placement; 3. Continuing Support; 4. Job Placement Follow-up.

This model was implemented and field-tested over a 2-year period. The evaluation revealed that substantial increases in vocational education course enrolment occurred in the original model site high school and that comparable enrolment levels were not found in comparison site high schools. It was found as well that there were more students in a greater variety of entry level jobs, earning higher wages and working longer hours than there were prior to the implementation of the model (Weisenstein et al 1991).

On Campus - University of Alberta

A program at the University of Alberta, "On Campus" has been described as being committed to accepting a heterogeneous group of students, including those who were labelled as having multiple and profound developmental disabilities (Frank & Uditsky, 1988).

The goals of this program include fostering a normative environment for friendship, enriching experiences, employment, and developing the individual's strengths, talents, and interests which lead to increased self-esteem, independence, community living skills, and the opportunity to secure employment or supported employment in the community upon graduation.

To plan a student's program, meetings are held during the fall and winter semester with the student, parents, university student volunteers, friends, On Campus staff and any other person important to the student. Student's dreams, strengths, talents, interests and needs are explored and a schedule is planned. The program includes instruction from On Campus staff of university tutors, and university classes. The plan includes social activities which may help in the development of relationships.

Community Integration through Cooperative Education Program - Humber College

The Community Integration through Cooperative Education Program (CICE) at Humber College, began in 1984 (Panitch, 1988). The program is based on the principles of individualization and integration.

CICE is two year long program, admitting 9 new students with an intellectual disability a year. Students participate in completing applications, orientation, personal interview, paying tuition fees, get a student card, library privileges, admittance to pubs. They receive transcripts, and twice a year have the opportunity to evaluate their teachers. They graduate with their peers.

Once admitted, students participate in working out a program that makes sense for themselves from the many opportunities Humber has to offer; they are encouraged to select a major area of vocational interest.

Activities are supplemented by upgrading and tutoring in literacy and practical maths. All work with peer tutors who are students from human service courses on field placement with the CICE Program.

Emphasis in the first year is college based, and in the second year, on finding integrated work opportunities. It has been noted that applications for the program far exceed available places. There is virtually no attrition and there is a high rate of employment for graduates (76% of CICE grads working full or part-time for pay, within a few months of graduation).

Project Excel - University of Arkansas

Jointly sponsored by the Office for Continuing Education and the Division of Student Services at the University of Arkansas, Project Excel, an intensive six-week summer program, was designed to facilitate the transition to college for incoming students with disabilities, and promote academic excellence (Serebren et al 1993).

The program activities enabled 12 high-achieving students with physical and learning disabilities, to develop friendships, successfully complete two college courses, and acquaint themselves with the university and surrounding community.

Project Stride

Project STRIDE was designed to test the feasibility of a model that provided comprehensive training and employment services to adults with learning disabilities (Ross-Gordon & Forlizzi, 1992). During the first year it incorporated other unserved adults with mild disabilities, including students with a mental handicap and students with emotional difficulties.

A unique feature of the program was the integration of adults with disabilities within existing inter-generational vocational education classes. Secondary and adult students attended the same classes)

Phase one included: recruitment, assessment of occupational aptitudes and interests, assessment of job-related basis skills from which an Individual Transition Plan (ITP) was developed.

During phase two, students spent an extended period of time in training full-time, usually approximately one academic year. Because of the diversity of students' learning abilities and disabilities a standardized program was not appropriate.

During phase three students transitioned into job placement and follow-up.

Distinctive features of this model include:

- the delivery of an integrated, highly individualized three-phased program that tailored the components of the training program to student needs from pre-evaluation through placement;

- the model provided for the delivery of instruction to adults with mild disabilities in the maintstream environment of a vocational-technical school serving secondary and adult students; a setting geared to meet the needs many adults with mild disabilities share for applied learning with direct hands-on experience. For those lacking interest, overall ability and/or persistence required to complete a two year of four-year college program, vocational training provides an opportunity to gain additional skills for employment with one year of full-time study. Providing a specialized program within the context of mainstream inter-generational vocational curriculum represents a relatively new option for further education for the adult with mild disabilities.

- a structured system of job follow-up is an important feature of this model.

Project LINK

The LINK program is a transition initiatives located in college settings and aimed at non-college bound youth with disabilities (Goldstein, 1993). It is not an inclusive model but rather provides for a "sheltered" setting for students with disabilities. These students are not enrolled in programs with typical students. Nevertheless this program is included here since it is a model that is cited in the literature that demonstrates the potential of colleges for expanding opportunities for people with disabilities.

Using the William Paterson College campus as a sheltered community, LINK employed a mentoring approach to facilitate transition for participants while connecting them into a network of post-secondary support services. LINK also offered expanded training opportunities and pre-professional experiences to selected undergraduates.

- LINK provided an integrated program in a college setting as a bridge from school to community for at-risk youth with mild disabilities. From observational data, self-reports and parent interviews, it was found that members made relatively greater gains in shorter periods of time while in LINK than during their school years.

- Project activities were organized to conform to the college calendar. LINK's program operated four days each week providing instruction, social and recreational activities, and paid part-time work experiences. Members were encouraged to seek off-campus employment on Fridays. Weekly meetings were held to ensure regular and accurate communication. They were designed to evaluate member progress, at the same time they afforded opportunities to troubleshoot interpersonal issues that arose among people involved in the project.

- Classes were scheduled at different locations on campus to require members to navigate independently, and to approximate college students' class schedules. Curriculum content covered feelings and behaviour, personal management, and attitudes and values.

- When members entered LINK they were issued temporary college ID cards that legitimized their presence on campus and allowed them to use campus facilities and take part in campus activities.

Model Program to Accommodate the Needs of Deaf Students in an Integrated Academic Environment

McNeil and Kelley (1993) present a model program developed specifically to accommodate the needs of deaf students in an integrated academic environment of a major southeastern university. By applying the principles of sound case management, the program successfully bridges the service, resource and support gaps between students who are deaf or hearing impaired and components in the academic environment.

The elements of a case-managed support system for mainstream college students who are deaf or hearing impaired include:

- advocacy
- assessment of eligibility
- technical assistance
- orientation to university
- provision of services on a continuing basis
- academic (tutoring, study skills development)
- accommodations (interpreters, note-takers, tutors)
  support (social, peer)
- personal needs (counselling)
- delineation of services

This model program demonstrated that attention must also be given to the coordination of multiple,simultaneous services in order to ensure continuity in the academic experience.

Community College of Allegheny County, Pennsylvania

The College Centre - North Community Services Division, Community College of Allegheny County, Pennsylvania, offers two vocational options for people with an intellectual disability: two semester food service or one-semester janitorial service programs (Dailey, 1982).

Prior to the inception of these programs no post-secondary vocational training for students over 21 years of age was available to adults with an intellectual disability in Allegheny County.

The programs include financial aid and individual and group counselling.

The Community College of Allegheny county has demonstrated that these programs can be incorporated into continuing education and that the classes can be made physically and psychologically accessible to adults with an intellectual disability who can then secure and maintain employment in competitive settings.

8. Conclusion

While some progress appears to have been made in recent years in terms of integrating students with disabilities in college programs and vocational post-secondary training, the literature suggests that inclusion of people with an intellectual disability in these programs has been less of a priority. Nevertheless, the small body of literature which does exist indicates that there are clear benefits to inclusion, provided there is adequate support and sufficient planning. There are however, significant gaps in the research literature particularly in the areas of program planning and adaptation for students with an intellectual disability. In addition, while some model programs are described in the literature, anecdotal evidence suggests that the integration of students with an intellectual disability in college and vocational programs may be occurring (albeit still in a limited way) and not being documented in the research literature. There is therefore a clear need to conduct further research on "best practices" that may not be reflected in the academic or research literature.

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